

CLAIMS:

1. A computer keyboard, comprising:
  - a frame;
  - a plurality of keys located on the frame;
  - a force sensor coupled to the frame and configured such that at least a portion of a force applied by a user to a key of the plurality is transferred to the force sensor, the force sensor generating an output varying in relation to the magnitude of the user-applied force;
  - and
  - a microprocessor in electrical communication with the force sensor and configured, upon a user pressing a key of the plurality, to:
    - identify the pressed key,
    - receive force sensor output data generated by the key press, and
    - associate the received force sensor output data with the identified key.
2. The computer keyboard of claim 1, further comprising a grid of conductors located on the frame and forming a plurality of intersections, each intersection including a pair of conductors from the grid, wherein:
  - each key of the plurality is located over a corresponding intersection and causes an electrical connection between the two conductors of the corresponding intersection when the key is pressed, and
  - the microprocessor is in electrical communication with the conductors.
3. The computer keyboard of claim 1, wherein the microprocessor is configured to:

individually test each key of the plurality to detect if said key is pressed by a user, and

only receive force sensor output data when a key press has been detected.

4. The computer keyboard of claim 1, wherein the force sensor comprises an upper and a lower conductor and a force-sensitive resistor material located between the upper and lower conductors.

5. The computer keyboard of claim 4, wherein the microprocessor is configured to:  
individually test each key of the plurality to detect if said key is pressed by a user,

permit, upon detecting a pressed key, a voltage to pass to ground through the force sensor, and

measure, subsequent to permitting said voltage to pass to ground through the force sensor, an output of the force sensor.

6. The computer keyboard of claim 5, further comprising an Analog to Digital Converter (ADC) coupled to said force sensor and to the microprocessor and configured to convert a force sensor voltage level to a digital value.

7. The computer keyboard of claim 1, wherein the plurality of keys includes multiple character keys having respective characters assigned thereto and a plurality of modifier keys.

8. The computer keyboard of claim 7, wherein the plurality of keys includes at least 36 character keys.

9. The computer keyboard of claim 1, further comprising a plurality of force sensors.

10. The computer keyboard of claim 1, wherein the microprocessor is configured to:  
detect simultaneous presses of multiple keys and identify the keys pressed,  
receive force sensor output data resulting from the simultaneous key presses,  
and  
apportion among the multiple pressed keys a total force represented by the  
force sensor output data resulting from the simultaneous key presses.

11. A computer keyboard comprising:  
a frame;  
a grid of conductors located on the frame, the conductors forming a plurality of intersections;  
a plurality of keys located above the plurality of intersections, each key being associated with an intersection and configured to create an electrical connection between the conductors of the associated intersection during a key press;  
a base;  
a plurality of force sensors located between the base and the frame; and  
a microprocessor.

having a plurality of conductor pins each in electrical contact with one of the conductors of the grid, and

coupled to the force sensors so as to receive force data output from the force sensors.

12. The computer keyboard of claim 11, further comprising an Analog to Digital Converter (ADC) coupled to the force sensors and to the microprocessor, wherein the microprocessor is coupled to the force sensors via the ADC and receives force data output from the force sensors after digital conversion of said output by the ADC.

13. The computer keyboard of claim 12, wherein the microprocessor is configured to:

ground a pin in electrical contact with a first conductor,

test a pin in electrical contact with a second conductor for a voltage level indicative of a press of the key associated with the intersection of the first and second conductors, and

upon detecting the voltage level indicating a press of the associated key, read from the ADC force data generated by the press of the associated key.

14. The computer keyboard of claim 13, wherein each force sensor comprises an upper and a lower conductor and a force-sensitive resistor material located between the upper and lower conductors.

15. The computer keyboard of claim 14, wherein the plurality of force sensors comprises at least four force sensors.

16. The computer keyboard of claim 15, wherein the plurality of keys includes multiple character keys having respective characters assigned thereto and a plurality of modifier keys.

17. The computer keyboard of claim 16, wherein the plurality of keys includes at least 36 character keys.